AMENDMENTS TO THE CLAIMS:

Kindly amend claims 1-3, 7, 10-11, 13, 15 and 18-21, as shown below.

This listing of claims will replace all prior versions and listings of claims in the Application:

Claim 1 (currently amended): A device for measuring dispersion of a link between two switching nodes of an optical network comprising:

a phase measuring unit for determining a first phase of a data signal received over said link on a first wavelength $\lambda 1$ and a second phase of said data signal received over said link on a second wavelength λ 2; and

a dispersion measurement controller for controlling operation of said phase measuring unit, and ~~characterizing~~ determining the dispersion of said link at a wavelength of interest $\lambda = (\lambda 1 + \lambda 2)/2$ based on said first and second phases.

Claim 2 (currently amended): A device as claimed in claim 1, wherein said phase measuring unit comprises:

a test dividing circuit for [[1:n]] dividing a first and a second test clock extracted from said data signal received on said first and second wavelength, respectively, and providing a first and a second divided test clock;

means for determining a first and a second rotation signal indicative of the digital offset between said first and second divided test clocks with a respective frame start; and

a phase detector for measuring the phase of said first and second divided test clock with respect to a static reference to obtain said first and said second phases.

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Claim 3 (currently amended): A device as claimed in claim 2 further comprising a reference dividing circuit for [[1:n]] dividing a reference clock extracted from said data signal received on a reference wavelength and providing a divided reference clock, wherein said static reference is provided by said divided reference clock.

Claim 4 (original): A device as claimed in claim 2, wherein said means for determining is a frame detector.

Claim 5 (original): A device as claimed in claim 2, wherein said phase measuring unit further comprises an analog-to-digital converter for providing said first and said second phases to said dispersion measurement controller in a digital format.

Claim 6 (original): A device as claimed in claim 3, further comprising:

a reference receiver for detecting said data signal received on said reference wavelength and extracting said reference clock;

a test receiver for detecting said data signal received on said first and second test wavelengths and extracting said first and second test clocks; and

a dispersion measuring card for accommodating said phase measuring unit and said receivers,

wherein each said receiver is provided with means for serial-to-parallel converting said data signal and providing same to said means for determining.

Claim 7 (currently amended): A device as claimed in claim [[5]] 6, further comprising, on said card, a reference transmitter for modulating said data signal received over said reference wavelength and transmitting same to the node at the input of said link.

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Claim 8 (original): A device as claimed in claim 1, further comprising a memory for storing dispersion calibration data for said phase measuring unit.

Claim 9 (original): A device as claimed in claim 8, wherein said memory further stores dispersion data calculated for said link.

Claim 10 (currently amended): A method for characterizing the dispersion of a link of an optical network comprising:

(a) transmitting over said link a data signal over a first test wavelength $\lambda 1$ and thereafter over a second test wavelength $\lambda 2$;

(b) at the output of said link, measuring a first phase of said data signal received on said first wavelength λ 1 and a second phase of said data signal received on said second wavelength λ 2; and

(c) ~~characterizing~~ determining the dispersion of said link at a wavelength of interest $\lambda =(\lambda 1 + \lambda 2)/2$ based on the difference between said first and second phases.

Claim 11 (currently amended): A method as claimed in claim 10 wherein said step (b) comprises:

[[1:n]] dividing a first and a second test clock extracted from said data signal received on said first and second test wavelengths, and providing a first and a second divided test clocks; and

comparing the phase of said first and second divided test clocks with a static reference to obtain said first and said second phases.

Claim 12 (original): A method as claimed in claim 11, further comprising determining a first and a second rotation signal indicative of the time offset between said data signal received over said respective first and second wavelength.

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Claim 13 (currently amended): A method as claimed in claim 12, wherein step of determining a first and a second rotation signal comprises:

serial-to-parallel converting said data signal received over said respective first and second wavelength to obtain a respective ~~n-bit~~ test word;

determining said first and said second rotation signal as the digital offset between said respective first and second divided test clock and the respective frame start.

Claim 14 (original): A method as claimed in claim 11, wherein said static reference is provided by said data signal received on a reference wavelength λ*ref*, transmitted continuously over said link and synchronous with said λ1 and λ 2.

Claim 15 (currently amended): A method as claimed in claim 11, wherein said step (c) comprises:

determining, from said first phase and said first rotation signal, a phase signal *phase_1*, indicative of the phase of said data signal when carried by said first test wavelength; and

determining, from said second phase and said second rotation signal, a phase signal *phase_2*, indicative of the phase of said data signal when carried by said ~~first~~ second test wavelength.

Claim 16 (original): A method as claimed in claim 15, further comprising calculating the dispersion parameter for said link at said wavelength λ as:

$$D(\lambda) = \frac{(phase\_2 - phase\_1)}{\lambda 2 - \lambda 1} \cdot \frac{1}{L},$$

wherein L is the length of said link.

Claim 17 (original): A method as claimed in claim 16, further comprising calculating the dispersion slope S(λ).

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Claim 18 (currently amended): A method as claimed in claim 10, further comprising repeating steps (a) [[–]] to (c) for a plurality of first and second wavelengths pairs for determining the dispersion parameter and slope across the entire spectrum used in said network to obtain a link dispersion profile.

Claim 19 (currently amended): A method as claimed in claim [[10]] 18, further comprising storing said dispersion profile in a database.

Claim 20 (currently amended): A method as claimed in claim [[10]] 18, further comprising using said link dispersion profile for optimizing dispersion of said link.

Claim 21 (currently amended): A method as claimed in claim 10, further comprising repeating steps (a) to (c) by switching between said first and second wavelengths to obtain a plurality of measurements for all [[2π/n]] phases of said test clock, to calibrate the dispersion measurements for a particular configuration of said link.

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